

## WHAT IS CLAIMED IS:

1. A process comprising mixing a colorant, a latex emulsion, a coagulant comprised of a cationic wax dispersion and a cationic surfactant.

2. A process in accordance with **claim 1** wherein said colorant is a colorant dispersion comprised of

(i) a colorant, water, and an ionic surfactant, or a nonionic surfactant, and wherein said latex is an emulsion comprised of an ionic surfactant, water and resin;

(ii) wherein the colorant dispersion is blended with the latex emulsion;

(iii) adding to the resulting blend a coagulant comprised of said cationic wax comprised of a dispersion of submicron wax particles of a size of from about 0.1 to about 0.5 micron in diameter by volume, which wax is dispersed in said cationic surfactant with an opposite charge polarity than that of said latex ionic surfactant to thereby primarily initiate flocculation or aggregation of the resin latex and the colorant;

(iv) heating the resulting mixture below about the glass transition temperature (T<sub>g</sub>) of the latex resin to form toner sized aggregates;

(v) optionally adding to the formed toner aggregates a second latex comprised of resin suspended in an aqueous phase containing an ionic surfactant and water;

(vi) adding to the resulting mixture a base to thereby change the pH which is from about 2 to about 2.9 to arrive at a pH of from about 5 to about 8 for the resulting aggregate mixture;

(vii) heating the resulting aggregate suspension of (vi) above about to the T<sub>g</sub> of the latex resin of (i);

(viii) optionally retaining the mixture temperature at from about 70°C to about 95°C optionally for a period of about 10 to about 60 minutes, followed by a pH reduction with an acid to arrive at a pH of about 3.5 to about 5 to assist in permitting the fusion or coalescence of the aggregates; and

(ix) isolating the product wherein said product is a toner.

3. A process in accordance with **claim 1** wherein said cationic wax is a colloidal dispersion comprised of submicron wax particles of from about 0.1 to about 0.5 micron in diameter by volume, which wax is dispersed in a cationic surfactant, and wherein said wax is substantially completely incorporated into said toner.

4. A process in accordance with **claim 1** wherein said wax is incorporated in an amount of about 1 to about 15 percent by weight of toner, and the amount of cationic surfactant selected is from about 2 to about 0.2 percent by weight of the resulting toner thereby providing a toner exhibiting a glossy finish.

5. A process in accordance with **claim 1** wherein the amount of cationic surfactant is from about 0.2 to about 3 weight percent by weight of toner product.

6. A process in accordance with **claim 1** wherein the resulting product toner possesses a glossy image wherein said gloss is from about 35 to about 80 gardiner gloss units (GGU) optionally measured at a temperature of about 160°C.

7. A process in accordance with **claim 1** and wherein the resulting product toner possesses a gloss of about 35 to about 80 GGU.

8. A process in accordance with **claim 1** wherein the minimum fix temperature of the resulting product toner is from of about 125°C to about 140°C.

9. A process in accordance with **claim 1** wherein the cationic wax dispersion is completely, about 100 percent, retained in the resulting product toner.

10. A process in accordance with **claim 1** wherein the latex resin particles are from about 0.15 to about 0.3 micron in volume average diameter.

11. A process in accordance with **claim 1** wherein the colorant is a pigment, a dye or mixtures thereof, and optionally which colorant is submicron in size of from about 0.08 to about 0.4 micron in average volume diameter.

12. A process in accordance with **claim 2** wherein said base is selected from the group consisting of sodium hydroxide, potassium hydroxide, and ammonium hydroxide.

13. A process in accordance with **claim 2** wherein there is added to the formed toner aggregates said second latex comprised of submicron resin particles suspended in an aqueous phase containing an anionic surfactant, and wherein said second latex is selected in an amount of from about 10 to about 40 percent by weight of the initial latex to optionally form a shell thereover on said formed aggregates, and which shell is of a thickness of from about 0.2 to about 0.8 micron.

14. A process in accordance with **claim 13** wherein the added latex contains the same resin as the initial latex of (i), or wherein said added latex contains a dissimilar resin than that of the initial latex.

15. A process in accordance with **claim 2** wherein the pH of the mixture resulting in (vi) is increased from about 2 to about 2.6 to about 6 to about 8, and wherein said base functions primarily as a stabilizer for the aggregates during coalescence (vii).

16. A process in accordance with **claim 2** wherein the temperature at which said aggregates are formed controls the size of the aggregates, and wherein the final toner size is from about 2 to about 25 microns in volume average diameter.

17. A process in accordance with **claim 2** wherein the aggregation (iv) temperature is from about 45°C to about 60°C, and wherein the coalescence or fusion temperature of (vii) is from about 85°C to about 95°C.

18. A process in accordance with **claim 2** wherein the colorant is a pigment, and wherein said pigment is in the form of dispersion, and which dispersion contains an ionic surfactant and optionally a nonionic surfactant, and wherein said cationic wax dispersion and optionally the cationic surfactant function as a coagulant and assist in the enablement of aggregation of said latex and said colorant.

19. A process in accordance with **claim 1** wherein the latex contains a resin or polymer selected from the group consisting of poly(styrene-alkyl acrylate), poly(styrene-1,3-diene), poly(styrene-alkyl methacrylate), poly(styrene-alkyl acrylate-acrylic acid), poly(styrene-1,3-diene-acrylic acid), poly(styrene-alkyl methacrylate-acrylic acid), poly(alkyl methacrylate-alkyl acrylate), poly(alkyl methacrylate-aryl acrylate), poly(aryl methacrylate-alkyl acrylate), poly(alkyl methacrylate-acrylic acid), poly(styrene-alkylacrylate-acrylonitrile-acrylic acid), poly(styrene-1,3-diene-acrylonitrile-acrylic acid), and poly(alkyl acrylate-acrylonitrile-acrylic acid).

20. A process in accordance with **claim 2** wherein the latex contains a resin selected from the group consisting of poly(styrene-butadiene), poly(methylstyrene-butadiene), poly(methyl methacrylate-butadiene), poly(ethyl methacrylate-butadiene), poly(propyl methacrylate-butadiene), poly(butyl methacrylate-butadiene), poly(methyl acrylate-butadiene), poly(ethyl acrylate-butadiene), poly(propyl acrylate-butadiene), poly(butyl acrylate-butadiene), poly(styrene-isoprene), poly(methylstyrene-isoprene), poly(methyl methacrylate-isoprene), poly(ethyl methacrylate-isoprene), poly(propyl methacrylate-isoprene), poly(butyl methacrylate-isoprene), poly(methyl acrylate-isoprene), poly(ethyl acrylate-isoprene), poly(propyl acrylate-isoprene), poly(butyl acrylate-isoprene); poly(styrene-propyl acrylate), poly(styrene-butyl acrylate), poly(styrene-butadiene-acrylic acid), poly(styrene-butadiene-methacrylic acid), poly(styrene-butadiene-acrylonitrile-acrylic acid), poly(styrene-butyl acrylate-acrylic acid), poly(styrene-butyl acrylate-methacrylic acid), poly(styrene-butyl acrylate-acrylonitrile), and poly(styrene-butyl acrylate-acrylonitrile-acrylic acid).

21. A process in accordance with **claim 1** wherein the colorant is carbon black, cyan, yellow, magenta, orange, green, violet or mixtures thereof; the product is a toner of from about 2 to about 20 microns in volume average diameter, and wherein there is added to the surface of the formed toner metal salts, metal salts of fatty acids, silicas, metal oxides, or mixtures thereof, each in an amount of from about 0.1 to about 10 weight percent of the obtained toner.

22. A process for the preparation of toner comprising the mixing of a colorant dispersion, a latex emulsion, a cationic wax dispersion, and optionally a cationic surfactant, and wherein said mixture is aggregated by heating below the latex resin glass transition temperature, and thereafter fusing said resulting aggregates by heating above the latex resin glass transition temperature, and optionally wherein said aggregate mixture is at a pH of from about 5 to about 8, and wherein said latex is comprised of resin, nonionic surfactant, ionic surfactant, and water.

23. A process in accordance with **claim 22** wherein the cationic surfactant is selected from the group comprised of alkylbenzyl dimethyl ammonium chloride, dialkyl benzenealkyl ammonium chloride, lauryl trimethyl ammonium chloride, alkylbenzyl methyl ammonium chloride, alkyl benzyl dimethyl ammonium bromide, benzalkonium chloride, cetyl pyridinium bromide, C<sub>12</sub>, C<sub>15</sub>, C<sub>17</sub> trimethyl ammonium bromides, halide salts of quaternized polyoxyethylalkylamines, and dodecylbenzyl triethyl ammonium chloride.

24. A process in accordance with **claim 1** wherein said wax is a polyethylene or a polypropylene.

25. A process in accordance with **claim 1** wherein said wax is comprised of a mixture of polypropylene and polyethylene.

26. A process in accordance with **claim 1** further including toner additives optionally comprised of metal salts of fatty acids, metal oxides, or mixtures thereof, each in an amount of from about 0.5 to about 3 weight percent.

27. A process in accordance with **claim 1** wherein said product is a toner comprised of colorant in an amount of from about 3 to about 15 weight percent, resin in an amount of from about 91 to about 73 weight percent, and wax in an amount of from about 6 to about 12 weight percent.

28. A process in accordance with **claim 1** wherein said resin is present in an amount of about 25 to about 50 weight percent, and wherein said resin is suspended in water containing about 1 to about 4 pph by weight of water; said colorant is a dispersion comprised of pigment particles of about 15 to about 40 weight percent dispersed in water present in an amount of about 85 to about 60 weight percent and containing a surfactant of about 1 to about 5 pph by weight of water; said wax is a dispersion comprised of wax particles of about 15 to about 35 weight percent dispersed in water of about 85 to about 65 weight percent and said cationic surfactant is present in an amount of about 1 to about 5 pph by weight of water; wherein said waxes are polyethylene, polypropylene, a paraffin, a carnauba wax or a microcrystalline, each with an  $M_w$  of about 650 to about 3,000.

29. A toner obtained by the process of **claim 1**.

30. A process comprising heating a colorant, a latex emulsion, a coagulant comprised of a cationic wax dispersion, and a cationic surfactant.